

Listing of Claims:

1. (Currently Amended) A method for the preparation of cDNA tags for identifying expressed genes comprising:

providing complementary deoxyribonucleic acids (cDNAs);

cleaving the cDNAs with a type II restriction enzyme to prepare cDNA fragments;

ligating the cDNA fragments to linker Xes which have a recognition site of a first type IIS restriction enzyme and which form a recognition site of a second type IIS restriction enzyme at the site linking with the cleavage end-sites of the cDNA fragments formed by the type II restriction enzyme to prepare linker X-cDNA fragment complexes;

cleaving the linker X-cDNA fragment complexes with the second type II restriction enzyme to prepare linker X-cDNA tag complexes;

ligating linker Ys which have a recognition site of a third type IIS restriction enzyme to the cleavage end-sites of the linker X-cDNA tag complexes formed by the second type IIS restriction enzyme to prepare linker X-cDNA tag-linker Y complexes;

amplifying the linker X-cDNA fragment-linker Y complexes; and

cleaving the amplified products thus obtained with the first and third type IIS restriction enzymes simultaneously or in turn to prepare the cDNA tags for identifying expressed genes.

2. (Currently Amended) A method for the preparation of cDNA tags for identifying expressed genes comprising:

providing complementary deoxyribonucleic acids (cDNAs);

cleaving the cDNAs with a type II restriction enzyme to produce cDNA fra[[n]]gments;

ligating the cDNA fragments to linker Xes which have recognition sites of first and second type IIS restriction enzymes to prepare linker X-cDNA fragment complexes;

cleaving the linker X-cDNA fragment complexes with the second type IIS restriction enzyme to prepare linker X-cDNA tag complexes;

ligating linker Ys which have a recognition site of the first type IIS restriction enzyme to the cleavage end-sites of the linker X-cDNA tag complexes formed by the second type IIS restriction enzyme to prepare linker X-cDNA tag-linker Y complexes;

amplifying the linker X-cDNA tag-linker Y complexes; and

cleaving the amplified products thus obtained with the first type IIS restriction enzyme to prepare the cDNA tags for identifying expressed genes.

3. (Currently Amended) A method for the preparation of cDNA tags for identifying expressed genes comprising:

providing complementary deoxyribonucleic acids (cDNAs);

cleaving the cDNAs with a type II restriction enzyme to produce cDNA fra[[n]]gments;

ligating the cDNA fragments to linker Xes which have recognition sites of first and second type IIS restriction enzymes to prepare linker X-cDNA fragment complexes;

cleaving the linker X-cDNA fragment complexes with the second type IIS restriction enzyme to prepare linker X-cDNA tag complexes;

ligating linker Ys which have a recognition site of a third type IIS restriction enzyme to the cleavage end-sites of the linker X-cDNA tag complexes formed by the second type IIS restriction enzyme to prepare linker X-cDNA tag-linker Y complexes;

amplifying the linker X-cDNA tag-linker Y complexes; and

cleaving the amplified products thus obtained with the first and third type IIS restriction enzymes simultaneously or in turn to prepare the cDNA tags for identifying expressed genes.

4. (Original) The method according to any one of claims 1, 2 or 3 further comprising the step of processing the cleavage end-sites of the cDNA fragments formed by the type II restriction enzyme to make the end-sites capable of binding to the linker Xes.

5. - 12. Canceled

13. (Original) The method according to any one of claims 1, 2 or 3 wherein the type II restriction enzyme is selected from the group consisting of Afal, AluI, CfuI, CviRI, DpnI, EsaBC3I, HpyBI, HpyCH4V, HpyF44III, MltI, PlaAII, RsaI, BfaI, Csp6I, CviAII, CviQI, CviRII, FgoI, HpyCH4IV, MaeI, MaeII, MthZI, RmaI, PpaAII, Tsp32I, Tsp32II, TaqI, TthHB8I, XspI, BspKT6I, BstKTI, HpyCH4I, AspMDI, Bce243I, Bfi57I, BfuCI, Bme12I, BscFI, Bsp67I, Bsp105I, Bsp143I, Bsp2095I, BspAI, BspFI, BspJI, Bst19II, BstENII, BtkII, CacI, CcyI, Chal, CpfI, CviAI, DpnII, FatI, FnuCI, FnuEI, HacI, Kzo9I, LlaAI, MboI, MgoI,

MkrAI, NdeII, NIaII, NmeCI, NphI, RalF40I, Sau3AI, SauMI, Sth368I, Hn1II, Hsp92II, NIaIII, TaiI, TscI and Tsp49I.

14. (Original) The method according to any one of claims 1, 2 or 3 wherein the first type IIS restriction enzyme is selected from the group consisting of MmeI, AcuI, Bce83I, BpmI, BpuEI, BsgI, BspKT5I, Eco57I, Eco57MI, GsuI, BsmFI, BspLU11III, BstOZ616I, StsI, BceAI, BstPZ418I, FokI, BcefI, AlwXI, BbvI, Bsp423I, BseKI, BseXI, Bsp423I, Bst12I, Bst71I, BstV1I, RleAI, AceIII, Bbr7I, EciI, TspDTI, TspGWI, Tth111II, HgaI, BseMII, BseRI, BspST5I, LweI, PhaI, SfaNI, AarI, Acc36I, BfuAI, BspMI, BveI, Sth132I, SspD5I, AsuHPI, HphI, MboII, NcuI, MnII, BbsI, BbvII, BbsI, Bbv16II, BpiI, BpuAI, Bsc91I, BspBS31I, BspIS4I, BspTS514I, BstBS32I, BstTS5I, BstV2I, Bme585I, BscAI, Bst19I, BstFZ438I, FauI, SmuI, BciVI, BfuI and HpyAV.

15. - 16. Canceled

17. (Original) The method according to any one of claims 1, 2 or 3 wherein the second type IIS restriction enzyme is selected from the group consisting of MmeI, AcuI, Bce83I, BpmI, BpuEI, BsgI, BspKT5I, Eco57I, Eco57MI, GsuI, BsmFI, BspLU11III, BstOZ616I, StsI, BceAI, BstPZ418I, FokI, BcefI, AlwXI, BbvI, BseKI, BseXI, Bsp423I, Bst12I, Bst71I, BstV1I, RleAI, AceIII, Bbr7I, EciI, TspDTI, TspGWI, Tth111II, HgaI, BseMII, BseRI, BspST5I, LweI, PhaI, SfaNI, AarI, Acc36I, BfuAI, BspMI, BveI, Sth132I, SspD5I, AsuHPI, HphI, MboII, NcuI, MnII, BbsI, BbvII, BbsI, Bbv16II, BpiI, BpuAI, Bsc91I, BspBS31I, BspIS4I, BspTS514I, BstBS32I, BstTS5I, BstV2I, Bme585I, BscAI, Bst19I, BstFZ438I, FauI, SmuI, BciVI, BfuI and HpyAV.

18. - 19. Canceled

20. (Original) The method according to any one of claims 1 or 3 wherein the third type IIS restriction enzyme is selected from the group consisting of MmeI, AcuI, Bce83I, BpmI, BpuEI, BsgI, BspKT5I, Eco57I, Eco57MI, GsuI, BsmFI, BspLU11III, BstOZ616I, StsI, BceAI, BstPZ418I, FokI, BcefI, AlwXI, BbvI, BseKI, BseXI, Bsp423I, Bst12I, Bst71I, BstV1I, RleAI,

AceIII, Bbr7I, EciI, TspDTI, TspGWI, Tth111II, HgaI, BseMII, BseRI, BspST5I, LweI, PhaI, SfaNI, AarI, Acc36I, BfuAI, BspMI, BveI, Sth132I, SspD5I, AsuHPI, HphI, MboII, NcuI, MnII, BbsI, BbvII, BbsI, Bbv16II, BpiI, BpuAI, Bsc91I, BspBS31I, BspIS4I, BspTS514I, BstBS32I, BstTS5I, BstV2I, Bme585I, BscAI, Bst19I, BstFZ438I, Faul, SmuI, BciVI, BfuI and HpyAV.

21. - 22. Canceled

23. (Original) The method according to any one of claims 1, 2 or 3 wherein the lengths of the cDNA tags for identifying expressed genes ranges from 6 base pairs (bp) to 25 bp.

24. - 25. Canceled

26. (Original) Linker X comprising recognition sites of the first and second type IIS restriction enzymes.

27. Canceled

28. (Original) Linker X-cDNA fragment complex comprising cDNA fragment formed by cleaving with a type II restriction enzyme and linker X having recognition sites of the first and second type IIS restriction enzymes.

29. (Original) Linker X-cDNA tag-linker Y complex wherein linker Y having a recognition site of the third type IIS restriction enzyme is ligated at the cleavage end-site of linker X-cDNA fragment complex.

30. Canceled

31. (Original) Library of cDNA tags for identifying expressed genes prepared by the method according to any one of claims 1, 2 or 3.

32. (Original) A method for the analysis of gene expression wherein the library of cDNA tags according to claim 31 is contacted with a detector on which nucleic acids to be detected are immobilized.

33. (Original) The method for the analysis of gene expression according to claim 32 wherein the detector comprises DNA chip having spots on which nucleic acids to be detected are immobilized.

34. - 35. Canceled

36. (Original) A method for the analysis of gene expression comprising the steps of concatenating cDNA tags prepared by the method according to any one of claims 1, 2 or 3 each other to form concatemers and sequencing the concatemers.

37. (Original) The method according to claim 36 wherein the concatemer consists of 3 to 200 of the cDNA tags for identifying expressed genes.

38. - 39. Canceled

40. (Original) The method for the qualitative analysis of gene expression according to claim 36 wherein the concatemers are sequenced and then each of the cDNA tags are sequenced on the basis of the sequences of the concatemers.

41. (Original) The method for the quantitative analysis of gene expression according to claim 36 wherein the concatemers are sequenced and then each of the cDNA tags are sequenced and measured in frequency of occurrences on the basis of the sequences of the concatemers.

42. (Original) A concatemer consisting of the cDNA tags prepared by the method according to any one of claims 1, 2 or 3 wherein no spacer sequence exists among the cDNA tags.

43. (Original) The concatemer according to claim 42, which consists of 3 to 200 of the cDNA tags.

44. - 45. Canceled

46. (Original) A concatemer consisting of the cDNA tags prepared by the method according to any one of claims 1, 2 or 3 wherein spacer sequences exist among the cDNA tags.

47. - 49. Canceled

50. (Currently Amended) A kit for the preparation of cDNA tags for identifying expressed genes wherein the kit comprises a type II restriction enzyme, a first type IIS restriction enzyme, a second type IIS restriction enzyme, a third type IIS restriction enzyme, linker Xes which have a recognition site of the first type IIS restriction enzyme and which form a recognition site of the second type IIS restriction enzyme at the site linking with the cleavage end-sites of the cDNA fragments formed by the type II restriction enzyme to prepare linker X-cDNA fragment complexes, and linker Ys which have a recognition site of a third type IIS restriction enzyme.

51. (Original) A kit for the preparation of cDNA tags for identifying expressed genes wherein the kit comprises a type II restriction enzyme, a first type IIS restriction enzyme, a second type IIS restriction enzyme, linker Xes which have recognition sites of the first and the second type IIS restriction enzymes, and linker Ys which have a recognition site of the first type IIS restriction enzyme.

52. (Original) A kit for the preparation of cDNA tags for identifying expressed genes wherein the kit comprises a type II restriction enzyme, a first type IIS restriction enzyme, a second type IIS restriction enzyme, a third type IIS restriction enzyme, linker Xes which have recognition sites of the first and second type IIS restriction enzymes, and linker Ys which have a recognition site of the third type IIS restriction enzyme.

53. Canceled